



### Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	10	A
$V_{RRM}$	45	V
$V_F@10A, T_j=125^\circ C$	0.42	V, typ
$T_j$ (operating)	-65 to 150	$^\circ C$

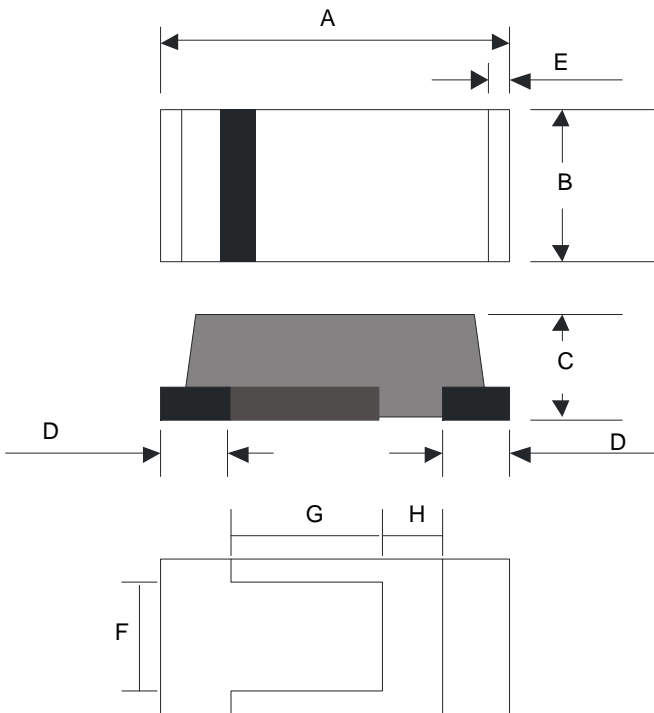
**Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications**

### ELECTRICAL:

- \* Ultra Low Forward Voltage Drop
- \* Reliable High Temperature Operation
- \* Softest, fast switching capability
- \* 150 $^\circ C$  Operating Junction Temperature
- \* Lead Free Finish, RoHS Compliant
- \* Halogen Free Finish

### MECHANICAL:

- \* Molded Plastic DO-214AB/SMC-T1



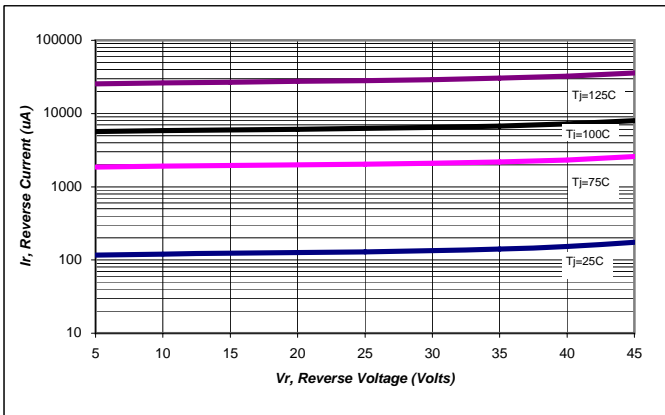
DO-214AB/SMC-T1		
Dim.	Min.	Max.
A	6.3	6.9
B	4.2	4.8
C	1.4	1.8
D	1.2 typical	
E	0.5 typical	
F	2.8	3.2
G	3.2	3.6
H	0.6	1.0
All Dimensions in mm		



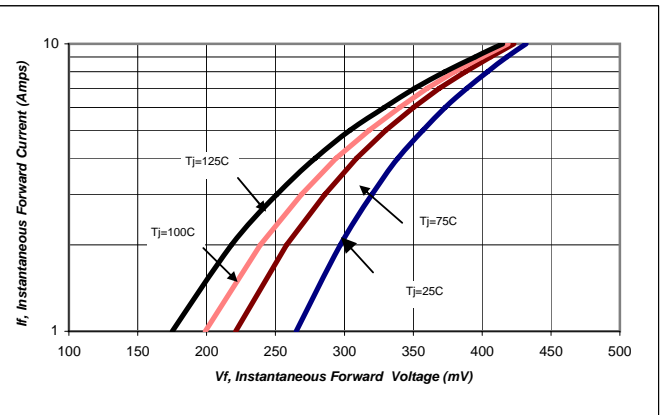
<b>Maximum Ratings and Electrical Characteristics</b> (at 25°C unless otherwise specified)				
	<b>SYMBOL</b>			<b>UNITS</b>
DC Blocking Voltage Working Peak Reverse Voltage Peak Repetitive Reverse Voltage	$V_{RM}$ $V_{RWM}$ $V_{RRM}$	45		Volts
Average Rectified Forward Current (Rated $V_R$ -20Khz Square Wave) - 50% duty cycle	$I_O$	10		Amps
Peak Forward Surge Current - 1/2 60hz	$I_{FSM}$	275		Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	$I_{RRM}$	2		Amps
Instantaneous Forward Voltage (per leg) IF = 10A; TJ = 25°C IF = 10A; TJ= 125°C	$V_F^*$	Typ --- ---	Max 0.47 0.42	Volts
Maximum Instantaneous Reverse Current at Rated $V_{RM}$ T <sub>J</sub> = 25°C T <sub>J</sub> = 125°C	$I_R$	Typ --- ---	Max 0.5 100	mA mA
Maximum Rate of Voltage Change (at Rated $V_R$ )	dv/dt	10,000		V/uS
Typical Thermal Resistance Junction to Ambient RthJA	$R_{\theta_{JA}}$	55		°C/W
Operating Junction Temperature	T <sub>J</sub>	-65 to +150		°C
Storage Junction Temperature	T <sub>STG</sub>	-65 to +150		°C
Device Marking Code		10V45		

NOTE: Dice are available for customer applications.

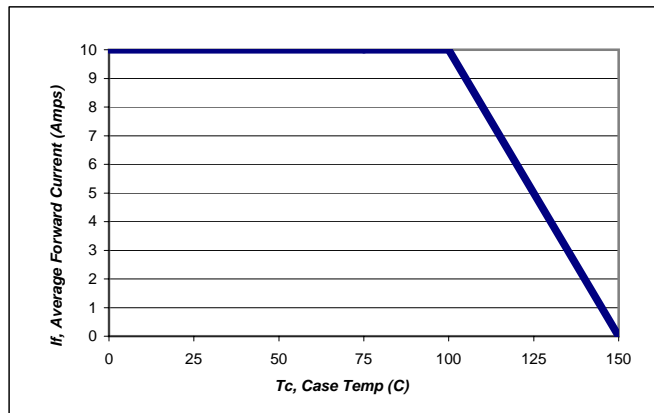
\* Pulse width < 300 uS, Duty cycle < 2%



**Figure 1: Typical Reverse Current**



**Figure 2: Typical Forward Voltage**



**Figure 3: Current Derating, Case**

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